

Fisher Population Analyses 2005

By Robert E. Rolley and Amber M. Roth

Abstract

The fisher population in the northern third of Wisconsin grew rapidly during the 1980s. Higher harvest rates during the 1990s slowed or stabilized population growth. During the 1990s, fall population estimates fluctuated around an average of 10,700 fishers, approximately 16% above the population goal of 9,200. Harvests during 2003 and 2004 were below the recommended quotas allowing the population to increase to over 13,000 by fall 2005. A harvest of 2,600 fishers was recommended for the 2005 season.

Methods

Trappers in all zones were required to register their fishers at a DNR station. In 2004, trappers in zones A, B, C, and D were required to surrender the skull of the fisher at registration and trappers in zones E and F were required to surrender the carcass. Date of harvest and harvest zone (Fig. 1) were recorded for each carcass. A canine tooth was extracted from each skull or carcass and all teeth were x-rayed. Kits were identified by the presence of an open foramen and wide pulp cavity (Kuehn and Berg 1981, Jenks and Bowyer 1984). Teeth from otters ≥ 1 years old were sent to Matson's Laboratory, Milltown, MT for processing and aging by counting annuli in the cementum. The sex of each fisher carcass was determined by examining reproductive organs. Ovaries were removed from all female carcasses and stored in 10% formalin until they were firm enough to hand section. The sections were then examined for presence of corpora lutea.

Fisher population estimates and trends were determined using Minnesota's Fisher Population Model and data obtained from harvest registration, carcass collections, and the Winter Furbearer Track Counts. Kohn et al. (1993) described procedures and interpretations in detail for data collected during 1985-92.

The Fisher Population Model was refined in 1995-96. Major changes included adjustments to illegal harvest estimates during earlier seasons with low harvests, and direct use of track frequencies observed in Winter Furbearer Track Counts as an independent estimate of population trends. The model was then modified for application in each Fisher Management Zone in 1997. Starting population size in the model was adjusted in zones A and C in 2003 to improve the correlation between model simulated population trends and trends in winter track counts.

Results

Skulls or carcasses were obtained from 1,023 fishers (450 females, 569 males, 4 unknown) in 2004. Reproductive tracks from 20 yearling or adult females harvested in Zones E and F were examined. Age has not been determined at this time. Since 1985, ages have been obtained from 8,075 harvested fishers (Table 1). Age distributions have been similar between sexes. On average, juveniles have comprised approximately 50% of the fishers harvested, yearlings 25%, and adults 25%.

The WDNR set a population goal of 9,200 fishers for Zones A, B, C, and D (1 per 2 square miles of habitat) in 1997 due to public concern about the high number of fishers. There were an estimated 11,500 fishers in the northern third of the state at that time (Table 2). The 1997 fisher harvest (>30% of the fall population) exceeded our harvest goal resulting in an estimated population for 1998 below the recently established population goal. Conservative harvests in 1998-2000 (6-8% of the fall population) allowed the population to recover. More liberal harvests in 2001-2002 (15-16% of fall population) appeared to stabilize population growth. Fisher harvest in 2003 (1,107, 9% of fall population) was less than the harvest objective of 1,660. Similarly, harvest in 2004 (1,508, 13% of the fall population) was less than the harvest objective of 2,055. The fisher population models produced estimates for fall 2005 of approximately 4,200 fishers in Zone A, 3,500 in Zone B, 2,900 in Zone C, and 3,100 in Zone D. Fisher populations appear to be above goal in all northern forest zones. Population goals have not been established and models have not been developed for Zones E and F.

The WDNR Furbearer Advisory Committee recommended harvest goals for 2005 of 800 fishers in Zone A, 600 in Zone B, 550 in Zone C, 550 in Zone D, 50 in Zone E, and 50 in Zone F. Harvest recommendations for zones A-D are designed to reduce populations in these zones.

Literature Cited

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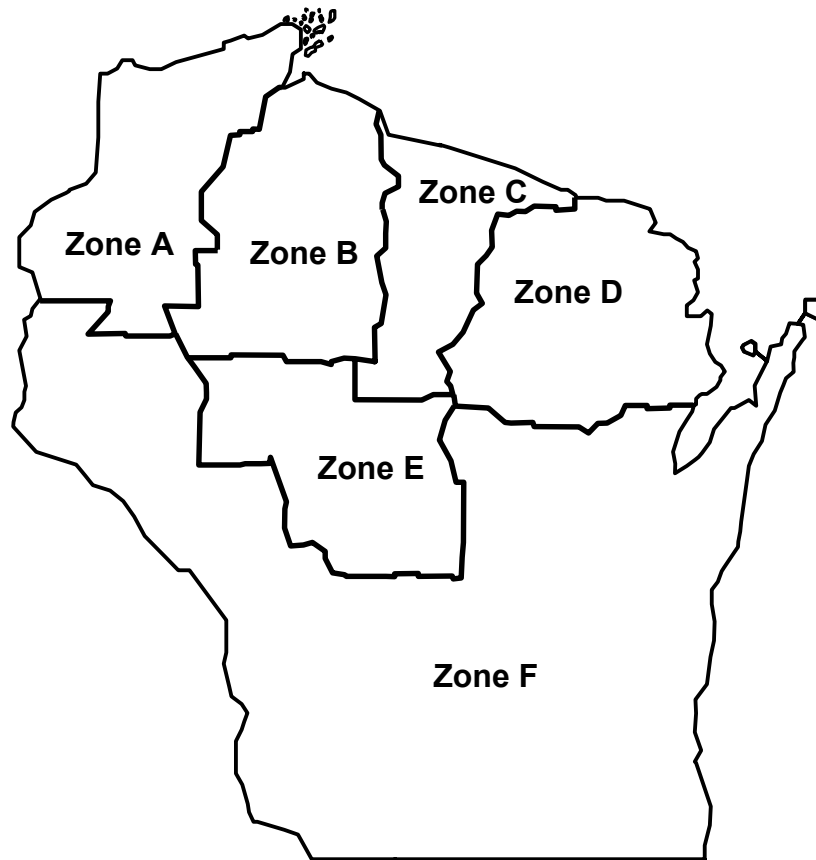


Figure 1. Wisconsin's Fisher Management Zones open to trapping, 2004. Zone F was opened to trapping in 2004 for the first time since fishers were reintroduced.

Table 1. Ages of fishers harvested in Wisconsin, 1985-2003.

Year	No. Aged	Percent in Age Class					
		Females			Males		
		Juv.	Ylg.	Adult	Juv.	Ylg.	Adult
1985-89	919	43	28	29	53	18	29
1990	271	49	34	17	50	27	23
1991	167	49	27	23	47	21	32
1992	1,420	52	25	23	51	26	24
1993	1,172	39	30	31	51	25	24
1994	1,158	55	24	22	54	24	22
1995	821	51	28	22	55	27	18
1996	0						
1997	0						
1998	247	55	31	14	65	18	18
1999	431	44	30	26	52	31	17
2000	529	44	30	26	47	31	22
2001	899	37	28	35	44	27	29
2002 ^a	18	75	0	25	40	30	30
2003 ^a	23	44	33	22	43	21	36

^a Only fishers harvested in Zone E were aged.

Table 2. *Zone-specific fisher population estimates and trends, 1984-2005^a.*

Year	Fisher Management Zones				Total
	A	B	C	D	
1984	1,000	1,400	600	1,100	4,100
1985	1,100	1,700	800	1,300	4,900
1986	1,300	1,900	900	1,600	5,700
1987	1,500	2,200	1,100	1,800	6,600
1988	1,500	2,500	1,200	2,000	7,200
1989	1,600	2,900	1,400	2,300	8,200
1990	1,600	3,200	1,700	2,500	9,000
1991	1,800	3,600	1,900	2,900	10,200
1992	2,100	4,100	2,200	3,300	11,700
1993	2,100	4,000	2,400	3,300	11,800
1994	2,100	3,800	2,500	3,300	11,700
1995	2,100	3,800	2,400	2,900	11,200
1996	2,300	3,800	2,400	2,900	11,400
1997	2,300	3,900	2,400	2,900	11,500
1998	2,400	2,600	1,800	2,000	8,800
1999	2,700	2,800	2,100	2,200	9,800
2000	3,000	3,000	2,200	2,400	10,600
2001	3,400	3,300	2,400	2,800	11,900
2002	3,500	3,000	2,400	2,800	11,700
2003	3,600	3,000	2,500	2,700	11,800
2004	4,000	3,300	2,700	2,900	12,900
2005	4,200	3,500	2,900	3,100	13,700
GOAL	1,700	3,200	1,600	2,700	9,200

^a Population models have not been developed for zones E and F.